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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,337	03/25/2004	Tetsuo Asada	119255	5444
25944	7590	04/27/2005	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			COLILLA, DANIEL JAMES	
			ART UNIT	PAPER NUMBER
			2854	

DATE MAILED: 04/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/808,337

Applicant(s)

ASADA ET AL.

Examiner

Daniel J. Colilla

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,7-9 and 12-39 is/are rejected.
- 7) ☐ Claim(s) 3,6,10 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/25/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 2, 10-11 and 14-37 are objected to because of the following informalities:

In claim 2, line 2 “second projections” has no antecedent basis in the claims. For purposes of examination, this term will be interpreted to mean --second protrusions.--

In claim 2, line 3, “the first projections” has no antecedent basis in the claims. For purposes of examination, this term will be interpreted to mean --first protrusions.--

In claim 10, line 4, it appears that “the recording head” should come before “forward and backward” to make grammatical sense.

Claim 34 has a similar problem.

In claim 14, line 23, “the second projections” has no antecedent basis in the claims. For purposes of examination, this term will be interpreted to mean --second protrusions.--

In claim 15, line 2, “second projections” has no proper antecedent basis in the claims. For purposes of examination, this term will be interpreted to mean --second protrusions.--

In claim 26, line 18, it appears that “down” should actually be --downstream.--

In claim 26, line 24, “the second projections” has no antecedent basis in the claims. For purposes of examination, this term will be interpreted to mean --second protrusions.--

In claim 27, neither “second projections” nor “the first projections” have antecedent basis in the claims. For purposes of examination, this term will be interpreted to mean --first protrusions.--

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 14-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 14, lines 22-24, the phrase, "suction ports which are defined in a predetermined region in the vicinity of the second projections and inside the second protrusions" does not appear to make sense in view of the disclosure. A suction port would not be able to fit "inside the second protrusions." It appears that "second projections" should actually be --second protrusions-- and perhaps applicant intended "second protrusions" to be --recesses.--

A similar problem exists in claim 26, lines 22-26.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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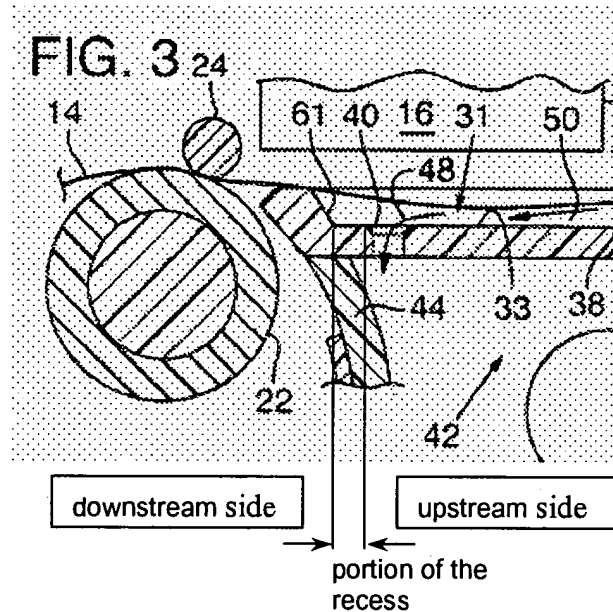
5. Claims 38-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Bruhn (US 2004/0066445).

With respect to claim 39, Bruhn discloses a platen 12 including a plurality of paper receiving surfaces 52 which are provided on a surface of the platen 12 and extend in parallel with a predetermined direction as shown in Figure 1 of Bruhn. Also shown in Figure 1 are the surfaces 52 spaced at predetermined intervals; the intervals being spaced in a direction perpendicular to the predetermined direction. Bruhn further discloses recesses 31 which are defined between adjacent paper receiving surfaces 52 and extend in the predetermined direction, estrange portions 61 which are provided on a downstream side of the recesses 31 and maintain the printing medium and the recess in a separated manner and suction ports 40 which are defined on a downstream side in the feed direction of at least part of the recesses as shown in Figure 1 of Bruhn.

With respect to claim 38, Bruhn discloses an image forming apparatus including an image forming unit 16, a feeding device 22, a suction device 43, and a platen 12 including a plurality of paper receiving surfaces 52 which are provided on a surface of the platen 12 and extend in parallel with a predetermined direction as shown in Figure 1 of Bruhn. Also shown in Figure 1 are the surfaces 52 spaced at predetermined intervals; the intervals being spaced in a direction perpendicular to the predetermined direction. Bruhn further discloses recesses 31 which are defined between adjacent paper receiving surfaces 52 and extend in the predetermined direction and estrange portions 61 which are provided on a downstream side of a portion of the recesses 31 and maintain the printing medium and the recess in a separated manner. As shown below, in the Figure taken from

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Figure 3 of Bruhn, Bruhn discloses suction ports 40 which are defined on an upstream side in the feed direction relative to a portion of the recesses:



Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-2, 4-5, 7-9 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bruhn in view of Yamaguchi et al. (US 6,736,501) and Miki et al. (US 2002/0167578).

With respect to claim 1, Bruhn discloses the claimed image forming apparatus except for the second protrusions and the suction ports on the upstream side. Bruhn

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discloses an image forming apparatus including an image forming unit 16, a feeding device 22, a suction device 43, and a platen 12 including first protrusions 50 which are provided on a surface of the platen 12 and extend in parallel with a feed direction as shown in Figure 1 of Bruhn. Also shown in Figure 1 are the protrusions 50 spaced at predetermined intervals; the intervals being spaced in a direction perpendicular to the feed direction. Bruhn further discloses recesses 31 which are defined between adjacent first protrusions 50 and extend in the feed direction and second protrusions 61 which are provided on a downstream side of the image forming region and extend in a direction perpendicular to the feed direction. As shown in Figure 3, Bruhn discloses suction ports 40 which are defined in the recesses in a vicinity of the second protrusions 61.

Yamaguchi et al. discloses an image forming apparatus with a platen that has first protrusions 24 and second protrusions 23b and 23a (each portion of 23b and 23a between the first protrusions 24 being considered a single protrusion) at upstream and downstream sides of the image forming region respectively as shown in Figure 4 of Yamaguchi et al. It would have been obvious to combine the teaching of Yamaguchi et al. with the image forming apparatus disclosed by Bruhn for the advantage of suppressed warping of the platen due to the rigid protrusions 23b and 23a (Yamaguchi et al., col. 6, lines 33-38).

Miki et al. teaches an image forming apparatus with a platen 38 that has recesses 40 between protrusions 39 as shown in Figures 3A and 3B of Miki et al. The recesses 40 have suction ports 42a at an upstream side of an image forming region and suction ports 42c at a downstream side of an image forming region. It would have been obvious to combine the teaching of Miki et al. with the image forming apparatus disclosed by Bruhn

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for the advantage of a higher quality printing which has reduced graininess in printed light areas due to the use of the colors, light magenta (LM) and light cyan (LC).

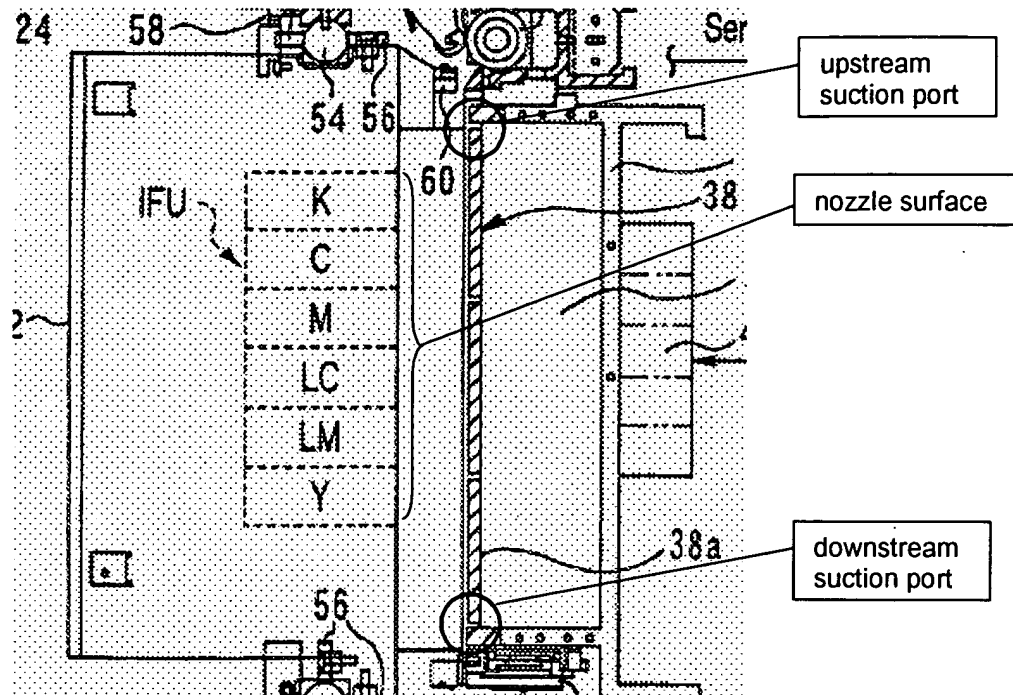
With respect to claim 2, each of the second protrusions taught by Yamaguchi et al. is connected to or adjacent to two of the first protrusions as shown in Figure 4 of Yamaguchi et al.

With respect to claim 4, Bruhn discloses a slope 39 located within the recesses 31 as shown in Figure 3 of Bruhn.

With respect to claim 5, the height of the second protrusions are the same height as the recesses as shown in Figure 4 of Yamaguchi et al.

With respect to claim 7, Bruhn discloses an ink jet printer with an ink jet printhead 68 that ejects ink towards the platen 12.

With respect to claim 8, Miki et al. teaches an upstream suction port that is provided in region of the platen outside a region where the platen faces a nozzle surface as shown below in the Figure taken from Figure 1 of Miki et al.:



With respect to claim 9, Miki et al. teaches printhead IFU having the nozzle surface facing the platen 38 and both upstream and downstream suction ports that are in a region of the platen which is outside where the platen faces the recording head.

With respect to claim 12, Bruhn discloses an air chamber 42 which communicates with the suction ports provided in the downstream side of the platen 38 as shown in Figure 3 of Bruhn.

With respect to claim 13, although Miki et al. does not explicitly state the total area of the suction ports on the upstream and downstream sides of the platen, they are symmetrically arranged and consistently sized on the platen, as shown in Figure 3A of Miki et al., which would indicate the total area of the ports on each side is substantially the same.

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8. Claims 26-29, 31-33 and 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bruhn in view of Miki et al. (US 2002/0167578).

With respect to claim 26, Bruhn discloses the claimed image forming apparatus except for the suction port that is in another region of at least one of the recesses distant from the predetermined region. Bruhn discloses an image forming apparatus including an image forming unit 16, a feeding device 22, a suction device 43, and a platen 12 including first protrusions 50 which are provided on a surface of the platen 12 and extend in parallel with a feed direction as shown in Figure 1 of Bruhn. Also shown in Figure 1 are the projections 50 spaced at predetermined intervals; the intervals being spaced in a direction perpendicular to the feed direction. Bruhn further discloses recesses 31 which are defined between adjacent first protrusions 50 and extend in the feed direction and second protrusions 61 which are provided on a downstream side of a portion of the recesses 31 and extend in a direction perpendicular to the feed direction. As shown in Figure 3, Bruhn discloses suction ports 40 which are defined in the recesses in a vicinity of the second protrusions 61. Miki et al. teaches an image forming apparatus with a platen 38 that has recesses 40 between protrusions 39 as shown in Figures 3A and 3B of Miki et al. The recesses 40 have suction ports 42a at a predetermined region and suction ports 42c in another region in one of the recesses distant from the predetermined region. It would have been obvious to combine the teaching of Miki et al. with the image forming apparatus disclosed by Bruhn for the advantage of a higher quality printing which has reduced graininess in printed light areas due to the use of the colors, light magenta (LM) and light cyan (LC).

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With respect to claim 27, Bruhn discloses that the second protrusions 61 are connected to the first protrusions 50 as shown in Figure 1 of Bruhn.

With respect to claim 28, Bruhn discloses a slope 39 located within the recesses 31 as shown in Figure 3 of Bruhn.

With respect to claim 29, the height of the second protrusions are the same height as the recesses as shown in Figure 4 of Yamaguchi et al.

With respect to claim 31, Bruhn discloses an ink jet printer with an ink jet printhead 68 that ejects ink towards the platen 12.

With respect to claim 32, Miki et al. teaches an upstream suction port that is provided in region of the platen outside a region where the platen faces a nozzle surface as shown in the above Figure taken from Figure 1 of Miki et al.

With respect to claim 33, Miki et al. teaches printhead IFU having the nozzle surface facing the platen 38 and both upstream and downstream suction ports that are in a region of the platen which is outside where the platen faces the recording head.

With respect to claim 36, Bruhn discloses an air chamber 42 which communicates with the suction ports provided in the downstream side of the platen 38 as shown in Figure 3 of Bruhn.

With respect to claim 37, although Miki et al. does not explicitly state the total area of the suction ports on the upstream and downstream sides of the platen, they are symmetrically arranged and consistently sized on the platen, as shown in Figure 3A of Miki et al., which would indicate the total area of the ports on each side is substantially the same.

Allowable Subject Matter

9. Claims 3, 6 and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Claims 10-11 and 34-35 are objected to as being dependent upon a rejected base claim and objected to for containing the above mentioned informalities, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and rewritten to overcome the above mentioned informalities.

11. Claims 14-25 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

12. The following is a statement of reasons for the indication of allowable subject matter:

Claim 3 has been indicated as containing allowable subject matter primarily for the height of each second protrusion provided on the downstream side being lower than those of the first protrusions.

Claims 6 and 30 have been indicated as containing allowable subject matter primarily for the first protrusions being arranged at such intervals that the interval on an end side of the platen is wider than that on a central portion of the platen.

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Claims 10-11 and 34-35 have been indicated as containing allowable subject matter primarily for the suction ports provided outside a region where the carriage has substantially the same height as the nozzle surface of the recording head.


Claims 14-25 have been indicated as containing allowable subject matter primarily for the at least part of the second protrusions on the upstream side and the second protrusions on the downstream side being disposed in two rows in a staggered configuration.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Colilla whose telephone number is (571) 272-2157. The examiner can normally be reached Mon.-Thur. between 7:30 am and 5:00 pm. Faxes regarding this application can be sent to (703) 872-9306.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached at (571) 272-2168. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April 21, 2005


Daniel J. Colilla
Primary Examiner
Art Unit 2854